

VIII. Analysis and Recommendations

- 1. By 2010, the public colleges and universities must grow to accommodate an additional 45,000 FTE students to meet demand resulting from population pressure and increased demand for degrees. In addition, the HECB in collaboration with local colleges must assess and, as necessary, develop policies and plans to increase participation among students in selected regions of the state.***

A recommendation on the total size of the system relies on the assessment of statewide capacity as well as employer, student, and community demand for education. The areas in the state with the greatest need for growth and recommendations on the size and shape of the higher education system are dependent on the statewide assessment and on the data from the regional profiles and must be used in conjunction with a review of institutional role and mission before specific recommendations on changes of the “shape” of higher education can be made.

In order to accommodate population growth and provide the same level of access as 2003-2004, the system will need to add 21,041 FTEs by 2010. Due to over-enrollments at the public two-year and four-year institutions, this translates to an increase of 24,836 students over 2006-2007 budgeted enrollment levels. The HECB estimate of demand, based on population growth and student demand for degrees, places the need at 44,562 over 2003-2004 enrollment levels or 48,481 over 2006-2007 budgeted enrollment levels.

The state may accommodate growth through expansion of a number of current strategies. Each college and university serves students from throughout the state; however, a greater proportion of students who reside in a given region tend to enroll in institutions in their region than in any one school in another region. Given this relationship, we might expect growth in the number of students from a region resulting from population growth to follow a pattern of enrollment similar to that of the current population. However, in a number of regions, growth due to population increase is expected to be especially high, while in other regions participation in postsecondary education falls well below the state average. To increase participation in these regions may require a variety of strategies that could include adding additional enrollment capacity to institutions within or near the regions. If it is not possible to add enough additional enrollment capacity to existing institutions to respond to growth associated with either population increases or increased higher education participation, then the creation of new higher education institutions and/or alternative delivery approaches must also be considered.

Based on the statewide and regional results, growth is required throughout the higher education system. Growth at the main campuses may be supplemented by growth of system campuses and university centers. The assessment supports the need for significant expansion of a number of existing campuses in response to pressure from population growth. The greatest impact from growth will occur in Southwest Washington, Snohomish/Island/Skagit Counties (SIS), and King County. While this growth places pressure on institutions throughout the state, it will disproportionately impact community colleges in those regions and University of Washington's Seattle and Bothell campuses, Western Washington University, and Washington State University in Pullman and Vancouver. The anticipated enrollment growth in the SIS region will likely outpace the growth of UW Bothell and other institutions that serve students from the region. The needs assessment data support the work already underway to more closely examine the feasibility of creating a new institution to serve Snohomish, Island, and Skagit Counties.

In addition to enrollment pressure resulting from population growth, a number of regions are faced with college participation rates well below the state average. This disparity is greatest in the Northwest, Tri-County, Eastern and Southwest Washington regions of the state. The challenges associated with increasing enrollment in these areas are great. Increasing participation will require more than simply increasing enrollment capacity in the region. It may entail the creation of new delivery approaches and/or making available different types of degrees or programs to potential students in the area. Therefore, in addition to recommending additional enrollments to serve potential students in these regions, HECB staff recommend that the institutions in the region, in collaboration with the HECB and SBCTC, assess the factors leading to lower participation in the public colleges and universities and, as necessary, develop or revise state policies and/or jointly prepare enrollment plans to the end of increasing the college participation rates of students in the region.

2. ***The higher education system must increase the number of graduates with the skills required to meet the employer needs in a number of key occupational areas. Institutions should develop strategies to increase the numbers of students prepared to fill positions in the high-demand areas of computer science, engineering, software engineering and architecture, and health care occupations. In addition, institutions in the state need to increase the number of students enrolled in graduate and professional programs to meet employer needs.***

The needs assessment provides a number of sources to determine demand for programs. An important element that emerged from the community demand data was an indication that the skill set demanded by employers goes beyond technical ability in a particular field. Rather, employers have become increasingly selective and are choosing to hire those workers who present a mix of deep technical knowledge in a given area and a set of more general or

transferable skills in the areas of management, communication, and teamwork. The responses are consistent with literature on the demands of the changing economy.²⁷

All three approaches to assessing demand indicate a need for increased capacity in architecture and engineering, computer science, and health care. Demand for business, education, life and physical sciences, and social sciences were identified in two of the three measures of demand.

High-demand occupations are those in which the greatest gap exists between the number of prepared workers graduating from Washington institutions and the demand for workers expressed by employers. At the macro level, Washington appears to produce too few professional and doctorate degrees. These degrees are essential in many industries, not the least of which is the need for higher education institutions to attract and retain qualified research and teaching faculty in a broad range of areas. Specific fields in which we are under-producing at the baccalaureate level and above are architecture and engineering, computer science, and health care.

3. ***Expansion of existing strategies in health care and the development of new programs and/or delivery mechanisms is recommended to meet employer and student demand. The health care industry faces critical shortages of qualified workers in a number of occupational areas. The largest number of openings are in nursing, but shortages are apparent in a wide range of fields.***

Health professions include a wide range of training needs at all levels. Substantial work has been done through the Health Care Personnel Shortage Task Force. This group has identified critical need for additional workers in a variety of health-related occupations. Institutions should seek ways to expand existing programs and develop new programs and delivery mechanisms that will enable them to prepare more graduates with the requisite skills and qualifications to meet the demand for health care workers.

4. ***The state higher education system must develop strategies to increase the number of qualified K-12 teachers and administrators in key shortage areas. The Office of the Superintendent of Public Instruction indicates a considerable shortage in special education and some shortage in a range of specialties including, but not limited to, math, science, and English as a second language. Some shortage is also indicated for most administrative and support specialties.***

While the aggregate estimates of supply and demand in education indicate that need is being met, the 2004 Report on Educator Supply and Demand in Washington State released by the Office of the Superintendent of Public Instruction indicates considerable shortage in special education and in a range of administrative/support positions, including speech pathology,

²⁷ (2001) The Future of Success. Robert Reich.

occupational and physical therapy, and school psychology. Some shortage is indicated in 21 out of 36 teaching areas and 11 out of 13 support personnel and administrative areas.²⁸

5. ***Additional study is recommended to better understand the apparent mismatch between supply and demand for trained workers in key occupational areas. In order for the needs assessment to be an effective planning tool for higher education, it is critical that the relationship between training and hiring practices in these occupations is well understood.***

Research and science occupations show significant need for higher levels of training, yet many of the key degree programs are flat or declining in the number of graduates. Further analysis of the training needs of employers and issues limiting growth in the number of degrees in this area is recommended.

The supply and demand match approach used with the occupational projections indicates the supply of graduates with a baccalaureate or above is well above the demand in occupations classified under “agriculture, construction, production, and transportation” and “sales and service” occupations. Further analysis of employer needs in these occupational groups is recommended to determine whether employment trends in these occupations are the result of employer preferences and changing expectations or other factors.

6. ***Further analysis of college participation in several regions is necessary to determine whether increased enrollments in regional institutions and/or the development of strategies to improve participation are called for.***

Participation rates in public higher education in a number of regions falls well below the state average. It is important to ensure the higher education system in the state serves all its residents; therefore, staff recommend that the HECB, in collaboration with the State Board for Community and Technical Colleges and institutions in regions identified with low college participation, assess the factors leading to lower participation in the public colleges and universities and, as necessary, develop or revise state policies and/or jointly prepare enrollment plans for increasing the college participation rates of students in the region.

7. ***A number of improvements to the methodology and data elements used in the needs assessment are recommended to ensure that the needs assessment is an effective tool to guide the growth of the higher education system in the state.***

The needs assessment model faces a number of limitations, some of which could be mitigated through access to better information.

²⁸ 2004 Report on Educator Supply and Demand in Washington State” released by the Office of the Superintendent of Public Instruction.

By matching institutional data with employment security data, HECB staff can assess workforce outcomes of resident and nonresident graduates of Washington institutions, including information on wages and the industry in which the student is employed. The process would allow for matching of graduates and students who drop out, allowing for an analysis of returns to enrollment as well as completion.

Improved tracking of individual student enrollment through the use of national clearinghouse data to identify system dropouts and add information on out-of-state enrollments in the OFM application match would greatly improve our understanding of student enrollment and persistence in Washington.

Further refinement of the HECB approach to matching training levels with occupations may also be required. This may entail the inclusion of multiple years of data and/or using more recent survey data through the state population survey as well as better data on the alignment of skills and abilities developed in education programs and workforce needs.

Additional data are needed on enrollments in private institutions. The private colleges and universities in Washington have been responsive to HECB requests for information. However, through the development of the need assessment, staff has identified additional data elements that would improve the assessment; specifically, regional enrollment data by class level from all private colleges in Washington (the current analysis includes regional enrollment data provided by the ICW schools).

Improved data on capacity at off-site facilities should be available through the program and facility inventory currently in development.

Finally, an examination of alternative approaches to estimate occupational growth and employer demand for degrees is recommended. Dr. Sommers, Seattle University, has proposed the use of industry cluster analysis as part of the community demand estimate in order to provide an alternative approach to understanding changes in employer and community needs.